



Tel Aviv University

2014 Annual Report



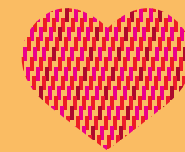
10

Reasons you'll
Love our
PhD students

One PhD student wants to rebuild the justice system from the ground up, another to unlock the secret of happiness. A third is protecting your cyber world and a fourth has wrought nano-miracles.

They are a sampling from among Tel Aviv University's more than 2,300 future-transforming doctoral students.

We love them and here are
10 reasons why you'll *love* them too.





They're tenacious

"I have always
been drawn to
the underdog."

Duygu Atlas, 32, from Turkey

Field: Turkish Politics

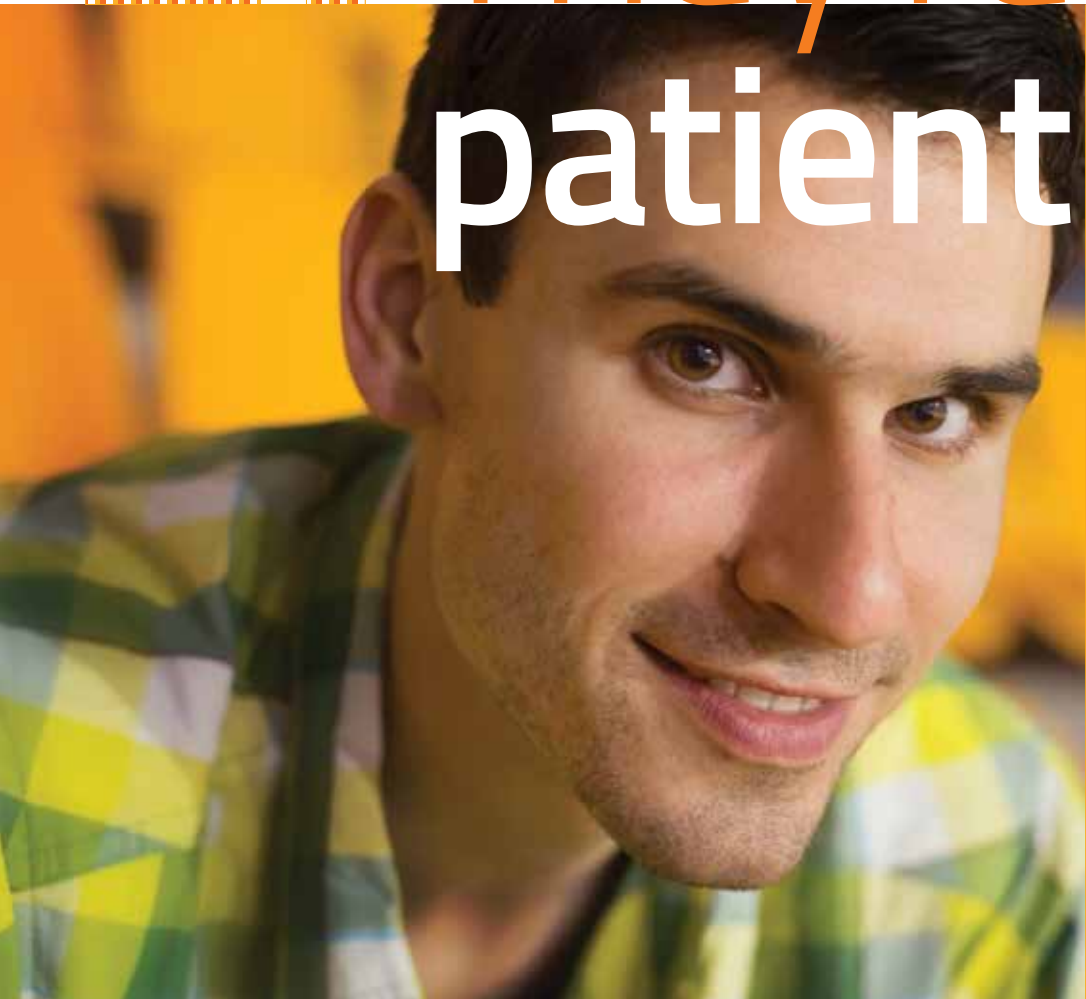
Scholarship: PhD Fellowship in History

Advisor: Prof. Amy Singer, Lester and Sally
Entin Faculty of Humanities

► Adversity never stopped Duygu from charting her own course. She was 13 years old when her father died suddenly, leaving behind her mother and two sisters to fend for themselves. "I had to learn to be strong and to go for what I wanted. I didn't have time to be confused," explains Duygu. Her personal struggles attracted her to the stories of minorities like the Kurds and Jews. Fluent in Turkish, English and Hebrew, and conversational in Kurdish and Arabic, Duygu sheds light on the impact of Turkish-Israeli relations on Turkey's Jewish minority.

"Basic research might not give quick results but good things take time."

2. They're patient



Alex Henning, 28, from Russia and Germany

Field: Nano & Engineering

Scholarship: Nanoscience and Nanotechnology Center Fellowship

Advisor: Prof. Yossi Rosenwaks, Iby and Aladar Fleischman Faculty of Engineering

Fun Fact: Hip hop choreographer

▶ The human nose can distinguish between more than 1 trillion smells, far surpassing the capability of today's "electronic noses," which are typically used to sniff out dangerous gases. Determined to bring electronic noses up to par, Alex is developing a nano-sized sensor that is not only more powerful, but also less expensive to produce than the average sensor used today.

Yona Kifer from Israel

Field: Psychology & Business

Scholarship: TAU Doctoral Fellowship in Psychology

Advisor: Prof. Daniel Heller, Faculty of Management

3.



They're curious

▶ Driven by the simple question, "What makes people happy," Yona began exploring the relationship between people's sense of power and their well-being. She found that those who described themselves as wielding power at work were 26 percent more satisfied than their colleagues who did not. One of the reasons for this effect is that power increases "authenticity" – the extent to which people feel they are being true to their deepest desires. These findings can be a valuable tool for managers who wish to boost employee morale and increase organizational creativity and performance.

Roy Sar-el, 30, from Israel

Field: Neuroscience & Medicine

Scholarship: Cegla Doctoral Fellowship & Teva Doctoral Fellowship

Advisor: Prof. Talma Hendler, Sackler Faculty of Medicine

Fun Fact: 100-kilometer ultramarathon runner

► For some people with ADD, Ritalin has little to no effect on their attention problems, while for others, the impact of the drug is too powerful and can lead to anxiety. Roy, an MD-PhD candidate, hopes to solve this problem. "If we could send a smaller dosage of the drug to a specific area in the brain, all the while avoiding non-relevant regions, we could potentially reduce the adverse effects of Ritalin and enhance its positive results," Roy explains. This personalized approach could be used to increase the efficacy of other common neurological and psychiatric medications.

4.

They're
not
afraid
to break
a sweat



5.

They're thoughtful

"My scholarship gives me the freedom to think about what's important to society."

Tomer Shadmy, 35, from Israel

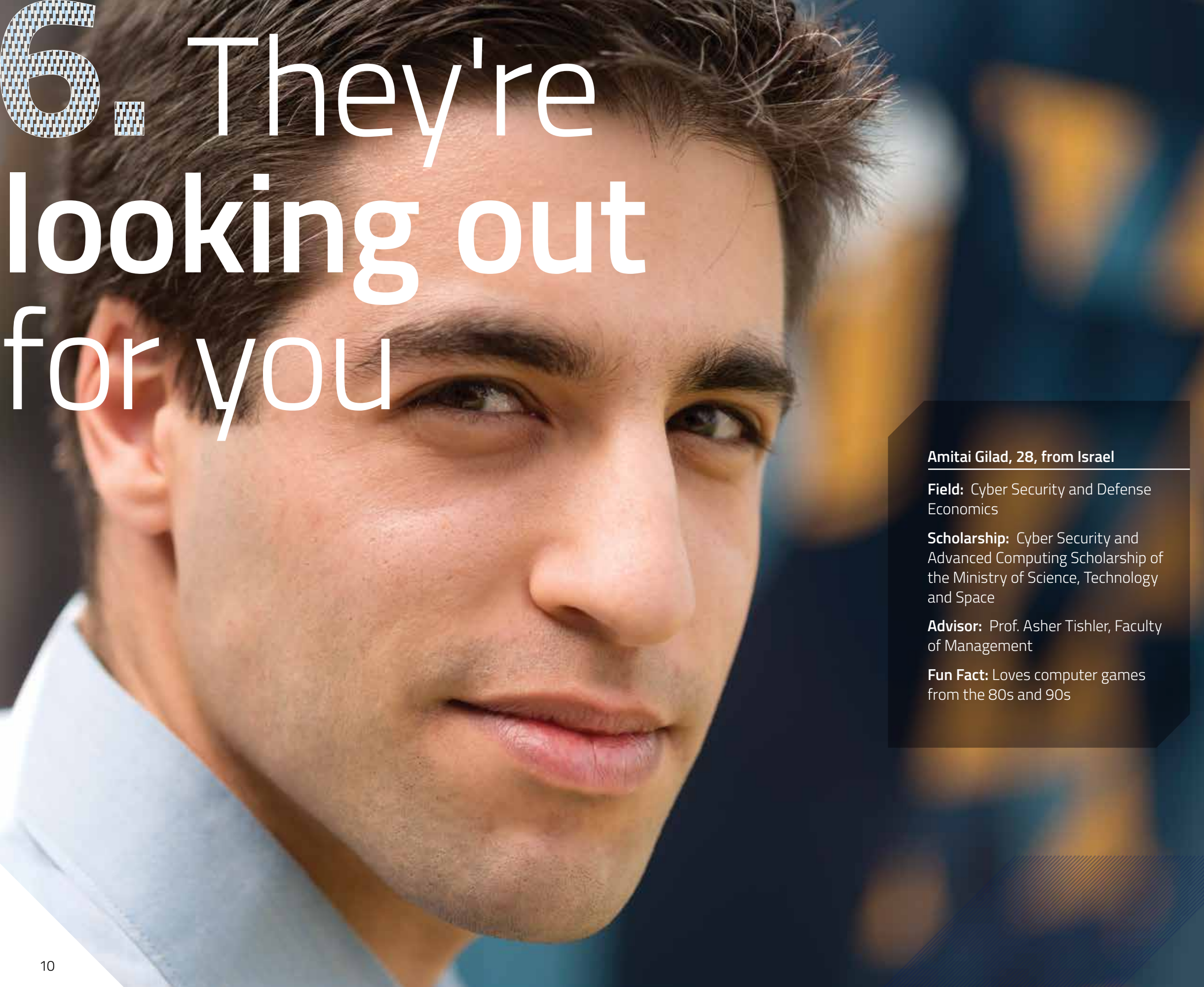
Field: Law

Scholarship: Dan David Scholarship & Buchmann Doctoral Fellowship

Advisor: Prof. Menachem Mautner, Buchmann Faculty of Law

Fun Fact: Worked as a political and financial journalist before becoming a lawyer

► After working as an attorney, Tomer made a decisive career change. "As a lawyer, I came into the picture after injustices occurred," she explains. "Now, as a researcher, I am thinking about new ways to right society from the bottom up." Tomer is developing a new legal framework to address today's interconnected, global society. While western legal thought has traditionally emphasized the notion of separateness, where states and individuals are responsible for themselves, Tomer believes a different legal framework, based on the assumption that we depend on each other for survival, is needed.

A close-up portrait of a young man with dark hair and a light blue shirt, looking slightly to the right. The background is blurred with warm, golden light.

6. They're looking out for you

Amitai Gilad, 28, from Israel

Field: Cyber Security and Defense Economics

Scholarship: Cyber Security and Advanced Computing Scholarship of the Ministry of Science, Technology and Space

Advisor: Prof. Asher Tishler, Faculty of Management

Fun Fact: Loves computer games from the 80s and 90s

"It's the role of cyber investigators to protect against technology's vulnerabilities."

► Major cyber attacks could wreak havoc on financial systems and our day-to-day lives. Amitai seeks to outwit sophisticated and well-funded cyber attackers by determining optimal defense strategies against them. In addition, he researches the most effective way for industry and government to allocate their cyber funds.

"Historical work is like detective work, with precious eureka moments."

► As a TAU undergraduate in math, Amir was frustrated by the schism between the sciences and humanities. He wanted to connect the two. His PhD thesis – already accepted – discusses the mathematical and statistical tools used by German anthropologists, psychiatrists and genealogists to substantiate eugenic initiatives or "racial hygiene" both before and during the Nazis' rise to power. Amir shows how science was manipulated to give lawmakers the legitimization they desperately sought to justify the annihilation of "defective" members of society.

7. They're fighters


Amir Teicher, 35, from Israel

Field: German History

Scholarship: Edmond J. Safra Graduate Fellowship in Ethics & TAU President's Scholarship

Advisors: Prof. Shula Volkov of the Zvi Yavetz School of Historical Studies and Prof. Eva Jablonka of the Cohn Institute for the History and Philosophy of Science and Ideas, Lester and Sally Entin Faculty of Humanities

Fun Fact: Karate black belt and swing dancer



► Tape recorder in hand, Maram travels to Arab villages and towns across Israel interviewing pharmacists, doctors and community members about inappropriate use of antibiotics – a public health concern given the recent rise of bacterial resistance to this class of drugs. Maram believes that cultural norms might compel some Arab women in Israel to bypass medical examinations and self-medicate with antibiotics. Her work could eradicate roadblocks to the correct use of antibiotic treatment in tight-knit Arab communities.

Maram Khazen, 36, from Israel

Field: Communications & Health

Scholarship: Doctoral Fellowship in Social Sciences

Advisor: Prof. Nurit Guttman, Gershon H. Gordon
Faculty of Social Sciences

Fun Fact: Practicing pharmacist

8. They care

"My research allows me to advance people's lives and health – what could be more important?"

9. They dream big

"There are a lot of intelligent girls in Cameroon, in Africa and around the world who can make it, who work hard, but they just need to be given an opportunity."

► Since the age of 12, Japhette has wanted to learn as much as possible about viruses: "I was amazed by how a little entity with no brain could cause so much destruction." In her doctoral studies, Japhette investigates an infectious agent that is killing off the tilapia fish population, an important food and protein source in the developing world. Her research could halt the spread of the disease and lead to the development of a vaccine to protect tilapia.

Japhette Esther Kembou Tsofack, 25, from Cameroon

Field: Food Security & Virology

Scholarship: Manna Food Security Fellowship

Advisor: Prof. Eran Bacharach, George S. Wise Faculty of Life Sciences

Fun Fact: Youngest, together with her twin sister, of eight siblings



Dan and his son Dor on the TAU campus at age 2 and age 12.

Prof. Dan Peer, 41, from Israel

Field: Nanomedicine

Fun Fact: He barely finished high school

Ten years ago, Dan Peer was a struggling PhD student and young father when he won the prestigious Buchmann Doctoral Fellowship at TAU.

Today, Dan is a successful senior faculty member at TAU's George S. Wise Faculty of Life Sciences and the proud father of three. He has invented nano-sized "bio-submarines" that can deliver drugs to target cells for the treatment of inflammatory bowel diseases and cancer. More impressive still, in just the last five years he has garnered more than **\$22.1** million in grants; paid for **28** graduate research fellowships; developed **12** new technologies; submitted **44** patents; and started **3** spin-off companies.



10.
**They're
the best
investment**

10 Reasons you'll
Love our
PhD students

Reports

Message from the Chairman and President

Each and every one of Tel Aviv University's 30,000 students aspires toward knowledge, excellence and a satisfying career. We feel privileged to nurture their smarts and ambitions. But one select group especially sparks pride: our brilliant and industrious PhD students.

Doctoral students are the elite front line of academia, the champions of science and scholarship. We look to them not only to explain the world around us today, but to expand it with new perspectives, new understandings and new directions for thought and action. They are our future leaders, lawmakers, policy gurus, educators, technological inventors, and social and cultural innovators – both in Israel and beyond.

Pursuing a doctoral degree is not easy. We know this personally. We ourselves were once struggling PhD candidates and we have also mentored our own PhD students.

By the time Tel Aviv University students begin their doctorates, they are typically in their late 20s or early 30s, having first completed IDF duty and worked hard to earn high grade-point averages in their first and second degrees. Many are already married, with young children to support. Since doctoral programs require students to give generously of themselves as researchers, instructors, teaching assistants and lab team members, they have no spare energy for paying jobs, and barely enough time left for their families.

That is why we are determined at Tel Aviv University to give our PhD candidates as much encouragement as possible in the form of generous fellowships and other support. About 60 percent of our 2,300 PhD students receive financial assistance – which comes from TAU sources together with foundations and private donors – and we are committed to bringing in substantially more funding to help these exceptional young people. Included in this group are an increasing number of international PhD students coming from Europe, Africa, Asia and North America on special fellowship and exchange programs.

■ Building for Success

One of the more exciting developments this year was the opening of Student City, which not only doubles campus housing but also offers family apartments for the first time. This option gives the University another way to attract and assist the very finest PhD students, as well as to provide comfortable living conditions to post-docs and newly recruited faculty. Other groups that will benefit from this new, affordable housing are students from the geographic and socioeconomic periphery in Israel, students that require disabled-friendly apartments, and overseas students attending one of more than two dozen short-term or full degree programs at TAU International.



President Joseph Klafter (left) and Chairman Jacob A. Frenkel at the Smithsonian's National Portrait Gallery during Tel Aviv University's Annual International Conference, held this year in Washington, DC

■ Global Friendships

Continuing the momentum of the last few years, the University launched several new collaborations with top-tier institutions abroad, including Northwestern, UC San Diego, UC Berkeley, Toronto and Frankfurt, among others. The boldest project is the XIN Center for Innovation to be jointly founded and run by Tel Aviv University and Tsinghua University in Beijing. Initially focused on nanoscience and nanotechnology, the XIN Center will stress applied research on priority challenges for both Israel and China such as health, water and pollution.

In our academic, physical and global development, Tel Aviv University is lucky to find wonderful partners in other leading universities and in our Friends Associations around the world. Wherever we travel we encounter heartfelt support for Israeli higher education generally and Tel Aviv University specifically.

We appreciate this devotion and look forward to working together with all the members of the extended TAU family – our faculty, students, alumni and friends – to strengthen the University's impact and reach.

Prof. Jacob A. Frenkel
Chairman, Board of Governors
Tel Aviv University

Prof. Joseph Klafter
President
Tel Aviv University

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Chairman of the Board of Governors



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Chairman of the Executive Council



Dr. h.c. Karl-Heinz Kipp
Deputy Chairman of the Board of Governors



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Prof. Yoav Ariel
Dean of Students

Distinctions

Prof. Halina Abramowicz, Exact Sciences, Fellow of the European Physical Society

Prof. Karen B. Avraham, Medicine, 2013 Teva Pharmaceutical Industries Founders Award

Prof. Noga Alon, Exact Sciences, Honorary Doctor of ETH, Zurich, Switzerland

Prof. (emer.) Roni Aloni, Life Sciences, Member of the German National Academy of Science (Leopoldina)

Prof. (emer.) Leslie Banks-Sills, Engineering, Honorary Doctorate from Lund University, Sweden

Prof. Bezalel Bar-Kochva, Humanities, Meitner Humboldt Research Award

Michal Bat-Adam, Arts, Rehovot Women's Festival Lifetime Achievement Award

Prof. Simon Benninga, Management, Dan Zisskind Prize for Research

Prof. (emer.) Ruth Berman, Humanities, Member of the Israel Academy of Sciences and Humanities

Prof. Leora Bilsky, Law, Zeltner Prize for Legal Research

Prof. Shimon Cohen, Arts, ACUM Board of Directors Prize

Prof. Tamar Dayan, Life Sciences, 2013 Society for the Protection of Nature in Israel Prize

Prof. Nachum Dershowitz, Exact Sciences, Member of the Academy of Europe

Dr. Avihai Dorfman, Law, Shneior Zalman Heshin Prize for Academic Excellence in Law – Young Researcher category

Prof. Israel Finkelstein, Humanities, Prix Delalande-Guérineau

Prof. Zvi Fishelson, Medicine, President of the International Complement Society

Prof. (emer.) Daniel Friedmann, Law, Israel Bar Association Award for Outstanding Contribution to Legal Research and Achievements in the Public Sector

Dr. Irit Gat-Viks, Life Sciences, 2014 Krill Prize for Excellence in Scientific Research

Ms. Noa Givon, Medicine, Raphael Rozin Prize for Rehabilitation

Prof. Illana Gozes, Medicine, 2013 Mifal Hapayis Landau Prize for Science and Research

Dr. Daphna Hacker, Law, 2013 Prof. Yossi Katan Award

Prof. (emer.) Elhanan Helpman, Economics, BBVA Foundation Frontiers of Knowledge Award in Economics

Prof. Dan Kosloff, Exact Sciences, SEG Reginald Fessenden Award

Prof. Ron Lifshitz, Exact Sciences, 2013 Jean-Marie Dubois Award

Prof. (emer.) Ram Loevy, Arts, Israeli Academy of Film and Television Lifetime Achievement Award

Prof. Irad Malkin, Humanities, 2013 Israel Prize in General Historical Research

Prof. (emer.) Roman Mints, Exact Sciences, Fellow of the American Physical Society

Prof. Ofer Moses, Medicine, European Prize for Basic Research in Implant Dentistry

Prof. Yaron Oz, Exact Sciences, President of the Israel Physics Society

Prof. Fernando Patolsky, Exact Sciences, 2013 Israeli Chemistry Society Excellent Young Scientist Award

Ms. Yael Perlov, Arts, Amnesty International Award of the Henri Langlois Film Festival

Dr. Debbie Rand, Medicine, Raphael Rozin Prize for Rehabilitation

Prof. Ronit Satchi-Fainaro, Medicine, 2013 Teva Pharmaceutical Industries Founders Award

Prof. (emer.) David Schmeidler, Exact Sciences, Member of the Israel Academy of Sciences

Dr. Hila Shamir, Law, 2014 Zeltner Prize of the Rotary Club, Israel

Prof. Nir Shavit, Exact Sciences, Fellow of the Association for Computing Machinery

Dr. Noa Shenkar, Life Sciences, 2013 Caroline von Humboldt Prize

Prof. (emer.) Shlomo Giora Shoham, Law, Israel Bar Association Award for Outstanding Contribution to Legal Research and Achievements in the Public Sector

Prof. David Steinberg, Exact Sciences, ENBIS Box Medal

Prof. Marcelo Sternberg, Life Sciences, Chairman of the Israel Society of Ecology and Environmental Sciences

TAU Housing, Community & Law Clinic, Law, 2012-2013 Emile Zola Human Rights Prize

Prof. Joseph Terkel, Life Sciences, 2013 Administration for the Development of Weapons and Technological Infrastructure Prize

Dr. Tamir Tuller, Engineering, Minerva Arches Award for Research Cooperation and High Excellence in Science

Prof. Tomer Volansky, Exact Sciences, Krill Prize in Physics of the Wolf Foundation

Prof. Jonathan Zak, Arts, Minister of Culture and Sport Musical Performance Prize – Frank Peleg Lifetime Achievement Award

Prof. Mira Zakai, Arts, Minister of Culture and Sport Musical Performance Prize – Board of Trustees Award

New Projects

■ Academic Development

Argentinean Friends Advanced Studies Program in Life Sciences – Latin America

Ari and Regine Aprijaskis Fund for the Support of the Department of Anatomy and Anthropology – Jaime Alcabes, USA

Zvi Yavetz School of Historical Studies – Eva and Marc Besen, Australia

Bonita Trust International LLM Program – Gibraltar

Support for the Institute for National Security Studies – Robin Chemers Neustein donor advised fund, USA

Support for the Institute for National Security Studies – Crown Family Foundation, USA

General Support – Edith West Friedmann Estate, USA

Support for the Eli Hurvitz Institute of Strategic Management – Dalia and Eli Hurvitz Foundation, Israel

Support for the Institute for National Security Studies – Jacobson Family Foundation, USA

Support for the Elga Cegla Legal Education Programs – Philip King Trust, UK

European Studies Program – Dr. h.c. Karl-Heinz Kipp; Volkswagen AG; Giesecke & Devrient Foundation, Germany

Support for the Institute for National Security Studies – Klarman Family Foundation, USA

General Support – Samuel Langberg, USA

Jenny, Harry and Bernard Lewis Middle East Study Fund – USA

Support for the Manna Center Program for Food Safety and Security – Latin America

General Support – Claire Maratier Estate, France

Support for the Institute for National Security Studies – Ambassador Alfred H. Moses, USA

Support for the Israel Affordable Housing Center – David and Inez Myers Foundation, USA

Moses and Dorothy Passer Education Fund – USA

Support for the Israel Affordable Housing Center – Charles H. Revson Foundation, USA

Support for the Institute for National Security Studies – Israel Roizman, USA

Howard and Judith Udell Distinguished Lecture on the Law – Raymond R. Sackler, USA

Support for the Retention Recruitment Campaign at the Faculty of Management – Michael Shaoul and Dr. Nirit Weiss, USA

Debra and Richard Sincere Project in Middle Eastern Studies at Tel Aviv University – USA

Support for the Retention Recruitment Campaign at the Faculty of Management – Richard and Debra Sincere, USA

Support for the Sofaer International MBA – Michael Sofaer, USA

Occupational Therapy Rehabilitation Program – Laszlo N. Tauber Family Foundation, USA

Support for the Center for Nanoscience and Nanotechnology – Vinci Technologies, France

General Support – Muriel F. Wall Estate, USA

■ Campus Development

Check Point Building – Check Point and Rashi Fund, Israel

Renovation of the Goldreich Multipurpose Sports Building – Jona Goldrich, USA

Equipment and Renovation of Space for the Myers Core Facility for Neurodegenerative Disorders – David and Inez Myers Foundation, USA

Lobby of the Steinhardt Museum of Natural History and National Research Center – Millie Philips, Australia

Lorry I. Lokey Graduate Center at the TAU Faculty of Management – USA

The Laboratory for Photolithography at the Center for Nanoscience and Nanotechnology – Latin America

■ Research

Research Fund for Prof. Isaac Witz – Adelson Medical Research Foundation, USA

Research Fund for Prof. Yosef Shiloh – Adelson Medical Research Foundation, USA

Dr. Ernest Baden Institute of Head and Neck Pathology – USA

Dr. Jane R. Baden Endowed Research Fund for Molecular Research to Elucidate the Etiology and Pathogenesis of Alzheimer's Disease – Dr. Ernest Baden, USA

Varda and Boaz Dotan Research Center in Hemato-Oncology – Israel

Stephen Harper Chair – Canada

Leona M. and Harry B. Helmsley Advanced Communications Technology Project – USA

Cosmology Research Fund for Prof. Yoel Rafeali – Joan and Irwin Jacobs Fund, USA

Multiscale BioCybernetics Research Fund for Prof. Eshel Ben-Jacob – Hardy Lane Foundation Inc., USA

Research Fund for Dr. Osnat Ashur-Fabian – Li Ka Shing (Canada) Foundation, Canada

Raymond and Beverly Sackler Fund for Research Collaborations in the Physical, Biomedical, and Engineering Sciences – USA

Louis Teichner Research Fund on the Environmental Factors Associated with Parkinson's Disease, for Dr. Nir Giladi – Annette Teichner, USA

Genetics Research Fund in Diseases of the Middle East – USAID-ASHA, USA

Dorin Vildman Research Fund – Israel

Meyer Zeifman Cornea and Stem Cell Research Fund – Canada

■ Student Aid and Fellowships

Australian Friends of Tel Aviv University International Studies Scholarships – Australia

Scholarship Fund for Students in Need – Jacob Ballas, Singapore

Hedah Boshes Scholarship Fund – Israel

Broadcom Foundation Scholars Program – USA

Cohen Family Doctoral Fellowship for the Study of Nanoscience, Nanotechnology and Electrical Engineering – Anthony J. Cohen, Canada

Crown Family Foundation Graduate Fellowships in the Sciences – USA

Fellowships and Research in Science – France

Israeli Friends of Tel Aviv University Scholarship Fund for Students in Need – Israel

Israeli Friends of Tel Aviv University Presidential Scholarships – Israel

Harvey M. Krueger Fellowships in the Humanities – American Friends of Tel Aviv University, USA

Samuel "Mokke" Dante Fellowship Fund at the Sagol School of Neuroscience – Robert and Susanne Osofsky Family Fund, USA

Sanda and Marius Rintzler Scholarships at the Buchmann-Mehta School of Music – Marius Rintzler Bequest, Germany

Ruchla Scholarship Fund – France

Mark I. Schickman Graduate Scholarship Fund – Andrew Zalkow, USA

Schwarz Scholarship Fund – Steven and Henryk Schwarz, USA

Presidential Scholars Program – Ira J. Wagner, USA

Whitman Family Scholarships – Martin J. Whitman, USA

Betty Wozniak and Zosia Blake Scholarship Fund – Australia

Ruth and Allen Ziegler Student Services Division – USA

■ Community

Access for All – Matanel Foundation, Panama

Listed: Projects of \$100,000 and above, by alphabetical order within categories.

Interdisciplinary Research

Inside Applied Technology

■ Bridging between academia and the market

Ramot, TAU's technology transfer arm, has established the Momentum Fund – a \$20 million investment fund aimed at bridging the gap between the University's applied research and the stage where it can be commercialized. The fund will invest in promising technologies in fields such as pharmaceuticals and healthcare, cleantech, communications, renewable energy and security. It is already partnering with worldwide industry leaders including Tata and SanDisk, as well as private investors from South Africa, the USA and India.

■ Smaller, faster, safer!

Bringing together microelectronics and cyber security, Dr. Eran Socher (Engineering), a leader in the emerging technology of millimeter-wave frequencies, is teaming up with Dr. Eran Tromer (Exact Sciences), an expert in cryptography, to bring computing to a new level of speed and security. In a three-year project funded by the Leona M. and Harry B. Helmsley Charitable Trust, Socher will build innovative network links that promise to increase wired and wireless communication bandwidth by about two orders of magnitude. Tromer will apply expertise in hardware-based cryptography and remote-verification protocols to protect the integrity of the new communication networks.

Inside Materials and Micro-Organisms

■ Launching a materials science department

Materials science, the study of the characteristics and uses of various materials, is an inherently interdisciplinary field that combines engineering, physics, chemistry and biology. New and better materials will underlie many future technological improvements to quality of life, health, safety and the environment. Now, the Iby and Aladar Fleischman Faculty of Engineering has established a new Department of Materials Science and Engineering. Coupling basic and applied

research, the department's aims are to generate breakthroughs, establish collaborations with academia, industry, government and defense organizations, and become both an internationally recognized center of excellence and a source of top-notch engineers.

■ Chewing on new ideas

With a grant from the Chief Scientist of the Israel Ministry of Finance, Prof. Raphael Pilo and Prof. Tamar Brosh (Dental Medicine) are collaborating with Prof. Ehud Gazit (Life Sciences) to develop a next-generation dental material. Their new technology incorporates biological nano-scale fillers to create composite materials that offer better adhesion to tooth structures and higher resistance to wear and tear. This new material also promises to eliminate common problems associated with current dental materials such as fractures, micro-leakage and secondary tooth decay.

■ Revolutionizing our understanding of bacteria

The discovery that bacteria adapt to environments by exchanging genes with other bacteria was a major breakthrough for understanding bacterial evolution and disease-formation. Now, a member of Prof. Tal Pupko's research group, PhD student Yaara Oren (Life Sciences), has discovered another mechanism that promises to be no less significant. She found that bacteria also exchange elements that regulate gene behavior. Oren combined advanced models of molecular evolution, bioinformatics and state-of-the-art molecular biology techniques to experimentally demonstrate that such regulatory switching helps disease-causing bacteria to survive and could, potentially, be used to block their activity.

Increasing communication bandwidth by two orders of magnitude

■ Engineering vaccines for viral disease

Dengue is a mosquito-borne viral disease that has increased 30-fold in the last 50 years, putting about half the world's population at risk of infection and possible death. Now, a startup company, Synvaccine Ltd., is combining the expertise of new TAU faculty member Dr. Tamir Tuller (Engineering) in computational representation of gene processes with that of Weizmann Institute colleague Prof. Ehud Shapiro in DNA synthesis systems to create the first vaccine against this disease. In partnership with TAU's Ramot technology transfer company, Weizmann Institute's Yeda, and the Office of the Chief Scientist, the two scientists plan to continue engineering vaccines for other dangerous viral diseases.

Preventing the development of Alzheimer's-causing proteins

Inside the Human Body

■ Cancer stage diagnosis with nano-accuracy

Current methods of cancer diagnosis often err regarding which exact stage the cancer has reached. Using a novel, light-based method that captures a nano-accurate, three-dimensional image of cells, Dr. Natan Shaked (Engineering) demonstrated that cancer cells fluctuate more than healthy cells, and metastatic cancer cells fluctuate even more – a discovery that will allow far more accurate diagnosis of cancer progression. The compact and inexpensive device that Shaked has developed can be attached to any existing clinical microscope, turning it into a powerful diagnostic tool.

■ Discovering the dynamics of the immune system

In a study combining bioinformatics and immunology, PhD candidate Yael Steurerman (Life Sciences), working under Dr. Irit Gat-Viks, is investigating how immune cells coordinate their response to infection. Drawing on her background in computers and her IDF service in a technological intelligence unit, Steurerman developed a novel computational method that imitates biological processes and uses machine-learning algorithms to test hypotheses regarding cell function. Her innovative approach may generate important new insights regarding the complex roles of various immune cell types and suggest new targets for clinical intervention.

■ Another reason to get off your couch

Currently incurable, Alzheimer's disease increasingly impairs brain function over time. Now a group of scientists led by Dr. Boaz Barak (Life Sciences) of the Sagol School of Neuroscience found that mice living in intellectually stimulating environments developed elevated levels of "good," brain-protecting proteins and lower levels of "bad," Alzheimer's-causing proteins. The research team's subsequent identification of the exact microRNA molecules responsible for this process could lead scientists closer toward preventive measures, earlier detection and tailor-made treatment for Alzheimer's.

■ Turning off the aging gene

Together with colleagues, Keren Yizhak (Exact Sciences), a doctoral student in Prof. Eytan Ruppin's lab, has developed a new computer algorithm identifying genes that can be "turned off" to create the same effects as calorie restriction, known to prolong lifespan. Reported in *Nature Communications*, these findings could lead to development of anti-aging drugs. Yizhak's algorithms are also the first in the field that, instead of targeting cells for destruction, transform them from an unhealthy to a healthy state. Her metabolic transformation algorithm could eventually lead to treatments for diseases such as obesity, diabetes, neurodegenerative disorders and cancer.

Inside the Mind

■ Targeting the most complex research frontier – the brain

About 20% of all human medical conditions are associated with neurodegeneration or poorly understood progressive changes in the brain. To meet the need for further research, TAU has established on campus the Myers Core Facility for Neurodevelopmental, Neurodegenerative and Neuropsychiatric Diseases: Prevention, Diagnosis and Treatment. The facility will advance research and graduate student training, as well as provide services to drug companies. Aimed at strengthening collaboration across disciplines, the Myers Core Facility will function in cooperation with the Adams Super Center for Brain Studies and the Sagol School of Neuroscience.

■ Language sciences – Key to understanding cognition

The Lester and Sally Entin Faculty of Humanities, Department of Linguistics and Program of Cognitive Studies of Language and Its Use have together established the Center for Research of Language and Cognition. The center's interdisciplinary group of scientists work at three labs: The Neurobiology of Language Lab is headed by Dr. Aya Meltzer-Asher, who aims to identify the cognitive and neuroanatomical basis of linguistic competence in the adult brain; the Language and Cognition Lab, headed by new faculty recruit Dr. Orna Peleg, is designed to explore the underlying processes of real-time language comprehension and production; and the Phonetics-Phonology Lab, headed by Dr. Evan-Gary Cohen, collects and compares data from a range of languages.

■ How painful is pain?

Individuals with sensory modulation disorder (SMD), particularly with the subtype known as sensory over-responsivity (SOR), are liable to demonstrate abnormal responses to naturally occurring stimuli in a manner that interferes with daily life. For example, they experience pain where others would not, and often react defensively. To find out why, Dr. Tami Bar-Shalit (Health Professions), who is currently establishing a new lab, conducted the first study of its kind investigating perception of pain in SOR subjects. The study sheds light on the unique patterns and diverse ways SMD individuals process pain compared with control groups.

■ How we decide to decide

Fresh from two years of post-doctoral studies at University of California, Berkeley, new faculty recruit Dr. Ayala Arad (Management) combines economics and psychology to better understand how people make decisions. Studying the psychological aspects of decision-making, including how people form beliefs and how past decisions affect future choices, Arad identified a new model of behavior. She proposes that, although decision-making deviates from economic models of behavior, it does so systematically, in a reasonable and predictable manner.

Exploring the neurobiology of language production and comprehension

Advancing more efficient and sustainable modes of transportation

Inside Society

■ The multi-layered identity of immigrants

In the digital age, the dual national identity of immigrants is bolstered by their consumption of readily available media both from their country of origin and their newly adopted home. Focusing on Israel's immigrants (*olim*), PhD candidate Gisela Dachs (Social Sciences) points out the extra complexity arising from the conflict between Israeli and international media in their portrayal of Israel. Opinions become radicalized as *olim* feel a need to defend their chosen country. In her novel study, Dachs aims to shed light on such multi-dimensional identities in the context of media and conflict in a globalized world.

■ The philosophy of an art critic

PhD candidate Pieter Shmugliakov (Humanities), a published poet in Russian and Hebrew, combines philosophy and the arts by focusing on philosophical aesthetics and the methodology of criticism. In his doctoral research he attempts to reconcile Heidegger's idea of art as an event characterized by the revelation of a universal truth, with the Kantian tradition of aesthetics as subjective perception. The two approaches, he argues, come together in the groundbreaking interpretations of Hollywood genres by American philosopher Stanley Cavell. Pieter points out that although a Kantian thinker, Cavell finds in the Hollywood films something compatible with Heidegger's approach.

■ Promoting affordable housing

The Buchmann Faculty of Law established the Affordable Housing Program with the aim of advancing academic research, policy change and grassroots initiatives in Israel's housing sector. The program's interdisciplinary mix of experts from law, economics, planning and community development are identifying Israel's housing needs and offering strategies to promote an all-inclusive housing policy. Under the direction of attorney Ora Bloom (Law), the program is generously funded by the Charles H. Revson Foundation & the David and Inez Myers Foundation.

■ Transporting us to better transportation

Joining the global effort to devise more sustainable and efficient transportation systems, the Department of Geography and the Human Environment has founded the Transportation Research Unit, to be headed by Dr. Moshe Givoni (Humanities). Research in the unit will focus on transportation and mobility, with an emphasis on understanding the social, economic and environmental impact of the sector. The unit also aims to take an active role in the public debate on transportation policy.

International Initiatives

Finding Synergies

■ A new Israel-China center of excellence

TAU is partnering with one of China's leading universities. Prof. Joseph Klafter, President of TAU, and Prof. Chen Jining, President of Tsinghua University, Beijing, signed an agreement to establish XIN ("new" in Chinese), a joint center for innovation. Its aim will be to nurture scientific talent and originality, advance interdisciplinary research and expand academia-industry cooperation with the goal of commercializing intellectual property generated from the project. The center will enhance Chinese-Israeli contributions to scientific and technological progress in both countries and throughout the world by supporting high-impact, ambitious R&D, beginning with nanoscience and technology and later expanding to other fields. Top doctoral candidates accepted into XIN will be provided with generous fellowships and a unique mentoring framework.

■ Measuring the oldest light in the universe

Under the newly established TAU-UCSD Joint Cosmology Research Program, headed by Prof. Yoel Rephaeli (Exact Sciences) and funded by Joan and Irwin Jacobs, TAU is taking part in the international POLARBEAR Project. The POLARBEAR telescope in Atacama, Chile, has a unique capability for sensitive measurements of cosmic microwave background (CMB) radiation, which is light left over from the early universe that provides critical evidence for the Big Bang model. The project team, which includes Dr. Meir Shimon (Exact Sciences), recently announced CMB findings in agreement with cosmological predictions.

Finding objective proof of the Big Bang

Changing Perceptions

■ Transformation of the public sphere

In a joint research project between TAU and Monash University, Melbourne, Australia, Dr. Eran Neuman (Architecture), together with Prof. Andrew Benjamin and Dr. Noah Shenker of Monash, is examining the effects of today's digital technologies on how we perceive space and architecture. Aiming to develop a new way of looking at the public sphere, Neuman will examine how interactive environments and technologies, such as augmented reality, bio-scanning and digital mapping, are reshaping relationships between the personal and communal, private and public, physical and virtual.

■ Regional perspectives on the news

New faculty recruit Dr. Sandrine Boudana (Social Sciences), a former Fulbright Scholar at NYU, studies journalistic norms and practices – especially those of war correspondents and photojournalists – from a comparative, cross-national perspective. She is collaborating in "Worlds of Journalism," a research project comparing journalistic cultures in 70 countries. By examining the hypothesis that French journalism is more opinion oriented than its fact oriented American counterpart, Boudana's study will attempt to determine whether the traditions of the French journalistic ethos are still influential today.

■ Life outside the psychiatric ward

Under the joint supervision of Prof. T. Krupa of Queen's University, Canada, and Prof. Moshe Kotler (Medicine) of TAU, Dr. Lena Lipskaya-Velikovsky (Health Professions) developed an intervention program designed to help patients hospitalized with mental health conditions improve their everyday functioning and integration into the community after discharge. Her work, lauded as "outstanding" by the 21st European Congress of Psychiatry, has led to collaboration with the Canadian Occupational Therapy Association, which is now translating into Hebrew its manual on new developments in community intervention.

Enhancing Human Health

■ Improving recovery of heart valve-implant patients

Dr. Vered Padler-Karavani (Life Sciences) heads the collaborative efforts of five laboratories from Israel, Sweden, Spain, Italy and the USA, all part of Translink, a European consortium with 13 partners from 7 countries that is examining immune reactions in patients receiving bioprosthetic heart valves. Having recently joined TAU from the University of California, San Diego, where her post-doctoral work focused on the immune system and its response to sugars, Padler-Karavani has established a new Laboratory for Glyco-Immunology that combines glycobiology, immunology, bio-nanotechnology and cancer research.

■ Hold those drugs!

Based on the prevailing view that large protein aggregates in the brain are the cause of toxicity in neurodegenerative disease, drugs are being developed to stop their formation. According to groundbreaking research by Prof. Gerardo Lederkremer (Life Sciences), published in collaboration with Prof. Ulrich Hartl, Max Planck Institute for Biochemistry in Germany, such drugs may be more detrimental than helpful. Studying Huntington's disease, Lederkremer found that toxicity is due to a protein involved in the process of aggregation, rather than to the aggregates themselves, which in fact serve to protect the brain. This discovery could be applicable to the development of new therapeutic approaches to Alzheimer's and Parkinson's.

Investigating the relation between fact and opinion in journalism

Slowing down vision loss caused by glaucoma

■ Better therapy for visual impairment

The VISION project, initiated and coordinated by Prof. Arie S. Solomon (Medicine) and funded by a large European grant, involves a consortium of 5 partners from Israel, Germany and Spain, working to develop a new therapy for glaucoma and other eye diseases involving the death of vision-related nerve cells. Solomon's team identified a protein (Sema3A) responsible for inducing neuron cell death, and demonstrated that an antibody against this protein inhibited further death of the relevant nerve cells. Based on this discovery, the new, more effective therapy will involve a minimally invasive implant for controlled release of the therapeutic substance.

Campus-Wide R&D

Revealing Nature's Myriad Secrets

■ Banana peel biofuel?

Remember the movie series, *Back to the Future*? Banana peels in our fuel tanks might not be so farfetched, believes Prof. Felix Frolow (Life Sciences). He has discovered a mechanism in a certain bacterium that detects the sugar composition of a biomass, such as plant fiber or wood pulp, and then produces an enzyme that breaks it down. Such a mechanism could make the commercial use of bacteria to convert biological material into biofuel a viable proposition.

■ The enemy of my enemy is my friend

Both viruses and bacteria can cause illness. However, some viruses, called bacteriophages, attack and kill bacteria. Those are the ones that Prof. Udi Qimron (Medicine), recipient of a European Research Council Starting Grant, is partnering with to help combat bacterial disease. Considering that growing antibiotic resistance is reportedly one of the three greatest threats to public health, Dr. Qimron has isolated a viral protein that can kill bacteria and could lead to a new "super drug" against tomorrow's superbug.

■ Natural cancer resistance

Laron Syndrome (LS), a rare type of dwarfism, surprisingly endows those affected with natural resistance to cancer. PhD student Lena Lapkina (Medicine), under the supervision of Prof. Haim Werner and clinical advisor Prof. Zvi Laron, researches how LS keeps cancer at bay. Understanding that insulin-like growth factor-1 (IGF1), produced in healthy subjects and deficient in LS, is a major player in cancer biology, Lapkina is comparing genes and proteins of healthy and LS subjects to reveal major differences in cell cycle dynamics and susceptibility to programmed cell death. Further study is expected to shed light on universal mechanisms of human cancer development.

Discovering a natural biological mechanism that reduces susceptibility to cancer

■ Signs of ET may soon be visible

The James Webb Space Telescope, currently being built as a successor to the Hubble, will be able to shed new light on the birth and evolution of galaxies and the formation of stars and planets – making it science's most advanced telescope. Prof. Dan Maoz (Exact Sciences) and Harvard's Prof. Avi Loeb, a Sackler Senior Professor at TAU by Special Appointment, have identified another important benefit. Since this telescope can detect the composition of planetary atmospheres, it might tell us for the first time if oxygen-producing life (via photosynthesis) exists on Earth-like planets beyond our solar system.

■ Monitoring climate change

Climate change is happening and we need to know how fast and how severe it really is. However, tracking it is complicated. Now, TAU researchers Israel Silber, PhD candidate, and Prof. Colin Price (Exact Sciences), have developed a potentially simple and economical method for monitoring changes. They discovered a strong correlation between temperatures in the climate-sensitive upper atmosphere, and fluctuations in the strength of very low frequency radio waves used globally by communication and navigation transmitters. This means that, in the future, simple radio antennas on the ground could provide an accurate indication of climate change, as well as quantify its effect on communication technologies.

Finding New Cultural Meaning

■ Exploring Jewish themes under the stagelights

Combining the study of traditional Jewish texts with research into Jewish theater and performance, Dr. Yair Lipshitz (Arts), recruited this year from the Hebrew University of Jerusalem, explores how theater reflects modern Jewish concepts of time and space. His research finds that themes such as future messianic redemption, the destruction of the Temple and loss of territory are repeatedly represented on the Hebrew stage, turning theater into a place where people can watch their fundamental myths reshaped and, through this process, address core questions of their culture.

■ Disparate Arab views of Zionism

In his recently published book, Dr. Uriya Shavit (Humanities) explores a genre of Arab writing that expresses a fascination with the achievements of the Zionist project, from Israel's democracy and strategic planning, to its technology and relations with the Diaspora. Shavit demonstrates how disparate ideologies lead to different representations of Israel. Arab Islamists depict Zionism as primarily a religious movement, invoking Israel as proof that only religious devotion can lead to triumph and that a religious state can be compatible with democracy. Arab liberals, on the other hand, see Israel as a secular society whose success is due to its progressive nature.

Analyzing core questions of Jewish myth and culture through theater arts

■ Royal finds

Recent archeological research at Tel Beth Shemesh, a major biblical site west of Jerusalem, unearthed rare finds from a 14th century BCE Canaanite palace. Under the direction of Prof. Shlomo Buminovitz and Dr. Zvi Lederman (Humanities), the expedition exposed dozens of ceramic items, among them two rare finds: a pair of delicate Minoan cups from the Cretan palace of legendary King Minos, and a commemorative Egyptian royal seal honoring the 30th year of rule of Pharaoh Amenhotep III, grandfather of Tutankhamon. These finds attest to the regional importance of Canaanite Beth Shemesh in the Eastern Mediterranean, while also shedding light on Aegean and ancient European chronology.

■ Conscientious objectors

Dr. Erica Weiss (Social Sciences), a cultural anthropologist, joined the faculty of TAU after completing her PhD at Princeton University and post-doc work at TAU. She is examining a sensitive issue in Israeli society, the refusal of some to carry out their army duty in Gaza and the West Bank. Focusing on the ethical responsibilities of individuals vs. groups and on the dynamics of communal responsibility, her recently published book, *Conscientious Objectors in Israel*, chronicles the personal experiences of two generations of Jewish Israeli conscientious objectors as they grapple with their choices under the pressure of justifying their actions to the Israeli state and society.

■ Looking at what we don't want to see

Ethical debate over showing images of traumatic events such as the Holocaust has had two outcomes: the creation of a new ethical category – the "un-representable," and the call for a ban on artistic or visual images of such events. Dr. Orly Shevi (Art History) examines artistic projects that ignore this ban. In her soon to be published book, *Probing the Un-Representable: Reflection on Auschwitz, Memory and Power in Contemporary Art and Film*, she argues in favor of visually representing traumatic events as a way of charting a new ethical map for the future. Shevi joined TAU after completing her PhD at the University of California, San Diego.

Making the World a Better Place

■ A bridge between business, policy and academia

To help close the gap between Israel's prominence as the "start-up nation" and its recently downgraded world ranking for business competitiveness, the UK's Jeremy Coller, deemed by Dow Jones Financial News as "one of the most successful financiers of his generation," has established the Coller Institute of Venture at TAU. The Institute's researchers will identify the obstacles preventing start-ups from flourishing; promote methodologies for overcoming these obstacles; and establish collaborations with industry aimed at driving economic growth. The Institute will be headed by Prof. Eli Talmor, founder and chairman of the Coller Institute of Private Equity at the London Business School.

■ Healthy real estate, healthy economy

The social unrest in Israel during 2011-12 was due partly to a lack of affordable housing. A vibrant real estate sector is clearly essential for economic growth, productivity, employment and even social justice. To this end the Alfred Akirov Real Estate Institute has been established at TAU, directed by Ms. Ravit Huberfeld (Management). Equipping students and executives with the skills and tools to become productive entrepreneurs and managers in Israel's real estate sector, the Institute aims to upgrade research, teaching and dialogue in the field.

■ Mathematical misconceptions

Research shows that typical student errors in mathematics are often based on common misconceptions. Awareness of these misconceptions could help teachers improve student learning. Addressing this need, Prof. Pessia Tsamir and Prof. Dina Tirosh (Mathematics, Science and Technology Education) have launched an online resource for "Typical Student Errors and Misconceptions in Geometry and Algebra." Supported by the Trump Foundation, the project will be based on Israeli and international research, analyzed for relevance to Israeli curricula, and accompanied by an online user guide for teachers and trainees.

■ The fight against human trafficking

In her article published in the *UCLA Law Review*, Dr. Hila Shamir (Law) suggests a new approach to combating human trafficking. She argues that the current focus of human rights activists on rescuing and rehabilitating victims of trafficking, instead of eradicating this scourge, allows nations to hide behind a façade of progress and achievement. She suggests, instead, to target the social and economic forces behind the phenomenon, and offers five measures for implementing anti-trafficking policies, among them preventing criminalization and deportation of workers reporting exploitation, and extending and enforcing the application of labor employment laws to vulnerable workers.

■ Planning for a peaceful future

Prof. Yossi Shavit (Social Sciences), together with Dr. Uri Shwed of Ben-Gurion University of the Negev, heads a project examining Arab-Jewish integration in Israeli schools. Funded by a generous grant from the Jacobs Foundation, this is the first country-wide project of its kind aiming to identify the circumstances that facilitate cross-ethnic friendships as well as school policies that promote them. Results of the project could contribute to the formulation of policy guidelines for enhancing ethnic integration in Israel and elsewhere, as well as provide a baseline for follow-up studies.

■ Modern data-driven decision-making

Today's information overload can paralyze managerial decision-making due to the sheer mass of potentially crucial information. Dr. Tomer Geva (Management) focuses on the use of large-scale data to inform decisions and generate predictions of future performance. Researching the field of Business Data Analytics, he accurately predicted multi-billion dollar automotive sales based on internet search activity and online discussion. He also evaluated sales predictability for online product networks such as Amazon Product Recommendation. In the era of "Big Data," Geva's research provides valuable insights to scholars, practitioners and managers on how best to utilize their data resources.

On Campus

If You Build It, They Will Come

■ Icon of green architecture

Even before its completion, the Porter School of Environmental Studies Building has become a magnet for visitors and is already fulfilling its mission to raise awareness and educate on sustainable design. Numerous delegations have toured the building's construction site over the last year, learning about its unique technologies and green construction. The building's striking, capsule-shaped conference room, visible from outside, will transmit real-time data on an external LED display. The capsule also symbolizes the building's envisaged role through time – protecting the health of the planet and encapsulating the essence of sustainability.

■ Financial aid through student housing

Student City, TAU's most ambitious building project to date, has opened 3 out of 8 planned dormitory towers and welcomed the first 300 student residents. When completed, the project will provide affordable campus housing to students from the social and geographic periphery, young researchers and their families, and international students. The 35,000 sq. m. of built space will also include shops, cafes, gardens and a student club. Three named units, the Chella and Moise Safra Building, the Chella and Moise Safra Court and the Laura Schwarz-Kipp Building, were dedicated this fall.

■ International Student Film Festival gains momentum

Academy Award-winning Hollywood producer Steve Tisch (*Forrest Gump*, *American History X*) will be chairing this summer's Tel Aviv International Student Film Festival – the first time the festival will be chaired in its almost 30-year history. Initiated and run by students and graduates of the Department of Film and Television, the festival showcases 250 films from 40 countries and is one of the most important events of its kind in the world. In other firsts this year, the festival will include a new competition for short independent films produced outside of university frameworks, as well as the Ophir Award for Best Short Dramatic Film to be presented by the Israel Academy of Film and Television.

Ensuring Success from Enrollment to Degree

■ In support of international students

The Psychological Services Unit of the Ruth and Allen Ziegler Student Services Division has recruited a student oriented clinical psychologist from the US to augment its staff and serve as an advisor for TAU International. In the last 5 years, the number of foreign students at TAU has nearly doubled from 780 to 1,380. On their own in Israel, far from their personal support systems, overseas students sometimes need trained clinicians to help them cope with the stresses they encounter and keep them on track to complete their studies.

■ Nurturing achievement among Arab students

The "Sawa"-Kahanoff Arab Student Retention Initiative, established by the Kahanoff Foundation, aims to ensure that Arab students at TAU successfully complete their degrees and join the ranks of Israel's professional workforce. For many young Arab-Israelis, challenges such as moving from village to city, studying in a language not their mother tongue, and facing financial constraints can seriously hamper their academic aspirations. The Kahanoff Initiative provides 300 first-year Arab students with mentors, study groups, private tutoring and scholarships if needed, as well as a social network, psychological and social services, and dedicated staff that help arrange prestigious internships with employers. The program is run by the Unit for Student Welfare at the Ruth and Allen Ziegler Student Services Division.

Teaching Programs

New Take on Traditional Subjects

■ A decade of teaching Judaism as culture

The *Ofakim* (Horizons) Program at TAU is a unique training program designed to equip teachers with the tools they need to educate Israeli schoolchildren about Judaism as a culture and civilization. Exclusively funded by the Posen Foundation, which is headed by philanthropist Felix Posen and his son Daniel, the Ofakim Program reflects Felix Posen's vision of educating the secular Jewish majority about Jewish history, philosophy, literature and culture. This year, the program is celebrating 10 years of success, with some 10,000 Israeli children educated by Ofakim graduates to date. It has become one of Israel's most prestigious teacher training programs and a valuable tool for ensuring the pluralistic character of Israeli society and the future of the Jewish people.

■ Biology & engineering tackle brain science

Under the direction of Prof. Yaniv Assaf (Life Sciences) and Dr. Uri Nevo (Engineering), a new study track has been created offering a double undergraduate degree in biology and biomedical engineering, with an emphasis on the brain. Resulting from collaboration between the Sagol School of Neuroscience and the Department of Biomedical Engineering, the new program is attracting a significant number of outstanding students.

■ Interdisciplinary labor studies

Until now, Labor Studies at TAU was taught on the graduate level only. This year an undergraduate track was opened, offering students an interdisciplinary program that draws from economics, psychology, sociology, law and history, as well as from management and organizational studies. Viewing work as a source of income, identity and social order, teachers in the new program expose students to multidimensional concepts of the world of employment as well as to its practical aspects.

Opening new horizons in Jewish history, philosophy, literature and culture through the Ofakim Program

■ 3 faculties + 4 departments = PPE, a BA program

PPE is an interdisciplinary field of study combining Philosophy, Political Science and Economics. At TAU, it also includes an additional cluster of courses in Law. The newly launched PPE undergraduate program, a collaboration between three faculties, aims to cultivate academics who understand the complexities of political reality, economists who understand the moral and political dimensions of economic policy, philosophers handy with empirical analysis and educated politicians who reason well and attend to economic data with competence.

Shortages No More

■ Training underrepresented sectors

The Department of Communication Disorders, Stanley Steyer School of Health Professions, has initiated a graduate program for Ultra-Orthodox clinicians, in a bid to meet the growing need for audio, language and speech pathology research and management-level professionals in this community. The program represents an important milestone in addressing the vocational needs of the Ultra-Orthodox in Israel.

■ Filling a scarcity

Against the backdrop of Israel's severe shortage of nurses, the Nursing Department at the Steyer School has opened two new 2.5 year study programs that confer both RN (registered nurse) certification and a BA in nursing. The first program is open to high school graduates wishing to serve as nurses in the army. The second is an accelerated program for those who already hold a BA in another discipline and seek a career change to nursing.

World Class Math

■ Adding up the wins

Israeli youth consistently give stellar performances at the International Mathematical Olympiad. In 2013 the Israeli team, consisting of six students – four of them studying for their BSc in Mathematics at TAU parallel to completing high school – came home with one gold medal, three silver and two bronze. TAU students also ranked high in the worldwide competition for university students. Now, TAU has assumed responsibility for training Israel's national representatives to the upcoming Olympiads. Members of the School of Mathematical Sciences will work together with the Dov Lautman Unit for Science Oriented Youth, with cooperation and funding from the Israel Ministry of Education.

TAU International

■ Summertime in Tel Aviv

Ever expanding its international study options, Tel Aviv University added three new summer programs taught in English:

- **Cyber Security Summer Session:** Open to applicants from all disciplines, this unique, four-week program exposes students to the creativity, innovation and quality of Israeli science and technology generally and TAU cyber expertise specifically. Participants will receive an introduction to programming and to the fundamentals of cyber system vulnerabilities.
- **Biology and Neuroscience Summer Research Program:** In this eight-week program, students experience science first-hand by joining the research team at one of 30 participating Tel Aviv University laboratories. Students can conduct either theoretical or experimental projects and are expected to present their findings at a final symposium.

- **Food Safety and Security Summer Institute:** Multidisciplinary by design, this two-week session is run by the Manna Center Program in Food Safety and Security and is open to qualified graduate students and practitioners in biology, public health, nutrition, policy, economics, law and international development. Participants will take intensive theoretical and laboratory courses taught by leading experts from Israel and around the world.

■ A dedicated Master of Laws degree

The newly renamed Bonita Trust International LLM gives foreign students the opportunity to earn an advanced degree at the Buchmann Faculty of Law, which ranks first in Israel and among the top law schools in the world in research impact. More than 50 courses allow students to explore contemporary challenges to law stemming from processes of globalization, the complexities of the Middle East region, the Israeli legal and social systems, and the technological dynamism of the "start-up nation." The program is supported by the Bonita Trust, a philanthropic foundation working in the areas of health and medical research, education, community services, culture and heritage, female entrepreneurship and disaster relief. The Trust has so far awarded substantial fellowships aimed at promoting diversity and rewarding academic excellence.

Finding creative paths to bolster the ranks of health professionals in Israel

Community

Overcoming Barriers

■ Seeing beyond sight

Under the tutelage of Dr. Peter Harris (Arts), theater students engaged in a creative encounter with the blind and partially-sighted community. Discussions held at Tel Aviv's Center for the Blind over a nine-month period became the basis of dramatic performances. The experience served to break down expectations and stereotypes for both the seeing and non-seeing groups. Audiences, for their part, were challenged to confront their own prejudices when they could not distinguish sighted from blind performers in the fast-paced flow of scenes, monologues, songs and dance routines of the shows.

■ Occupational Therapy gives a helping hand

As part of students' fieldwork, the Department of Occupational Therapy at the Stanley Steyer School of Health Professions has diversified its community activities to include parents with learning disabilities, patients at rehabilitation centers, children of foreign workers and refugees, and at-risk youth. Students impart computer competence and other life skills such as home management and paying bills; conduct sensory-motor interventions for youngsters with developmental delays; and promote healthy interpersonal relations among youths, among other projects.

Bringing TAU to High Schools

■ A yellow brick road to TAU

"Paths to the University" is a TAU flagship program led by the Social Involvement Unit at the Ruth and Allen Ziegler Student Services Division. Its aim is to motivate junior and senior high school students from greater Tel Aviv's less privileged areas to enter the academic world. This past year, 50 faculty members along with 133 TAU student mentors introduced 1,670 youngsters to the TAU campus and academic fields of study. Following their participation, 75% of the youngsters said the experience motivated them to aspire to higher scholastic achievement, while 77% of the TAU students said the program encouraged them to continue working toward social goals.

■ Want to be a doctor?

"Window on Medicine" is an educational program established by Prof. Ilan Tsarfaty and Dr. Miriam Shaharabani (Medicine) in collaboration with the Ziegler Division's Unit of Social Involvement and the Netivot city council. Selected high school students from Netivot, Tel Aviv, Ramla and Bnei Brak take part in a special course at TAU that introduces them to medical science with the aim of encouraging their continued academic study. Now in its second successful year, the program has prompted the opening of a new matriculation program in medicine for Netivot high school students.

Offering an insider's view of the medical field to high school students

Getting law student volunteers involved in shaping Israeli legislation

Promoting Dental Health

In today's reality of limited budgets for healthcare services, the Maurice and Gabriela Goldschleger School of Dental Medicine embraces its social responsibility to provide services where needed.

- **For the elderly:** In a collaboration between the Department of Prosthodontics headed by Prof. David Kohavi and the Tel Aviv-Yafo Municipality, an innovative graduate program in the final stages of preparation will produce specialists in geriatric dental care, while also offering free dental services to Holocaust survivors and other groups.
- **For the young:** The Department of Pediatric Dentistry headed by Prof. Benny Peretz, in collaboration with the La Sova organization and Kadima Youth Centers, is providing dental treatment and oral hygiene education to needy children.
- **For new immigrants:** In a joint program of the Goldschleger School and the Ziegler Division's Unit for Social Involvement, dental students made several visits to a religious girls' high school in Kfar Saba, providing oral hygiene education and dental care equipment to recent arrivals from Ethiopia.

These services are supported by funding from the Alpha Omega fraternity, which helped found the School of Dental Medicine and continues to provide it with support.

Power to the People

■ Promoting involvement in government affairs

Dr. Daniel Dor (Social Sciences) is the co-founder of The Social Guard, a national civic involvement organization that has been cited as one of Israel's most influential non-partisan organizations. Its aim is to make government more transparent and accountable to citizens. It achieves this by sending volunteers to Knesset (parliament) committee meetings and informing the public about pertinent issues through the organization's website and Facebook page. Over a two-year period, volunteers have reported on 1,300 meetings, igniting public discussion and media interest.

■ Law students advise the government

The Omek Center was founded by TAU law students seeking to shape legislative processes, from decision-making and policy development to the actual wording of legislation. Over 120 members from TAU as well as other leading academic institutions act as legislative analysts and advisors to members of Knesset on matters of research and law. Through harnessing the personal and professional abilities of its members, the center promotes public goals in the fields of education, health, welfare, science, environment and more. The center is also advancing contact with law students abroad with the hope of creating a young multinational legal community working to improve society.

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